



PATENT APPLICATION
Customer Number 28289
Serial No. 09/975,088
Attorney Docket No. 3265-011733

3677
#10
JD
10/08/03

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Group Art Unit 3677 :
In re application of :
Frederick Allan HALL : **IMPROVEMENTS IN AND RELATING**
: **TO KARABINERS**
Serial No. 09/975,088 :
Filed October 10, 2001 :
Examiner - James R. Brittain :

Pittsburgh, Pennsylvania
August 15, 2003

CLAIM FOR PRIORITY UNDER 35 U.S.C. §119

MAIL STOP PATENT APPLICATION
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

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GROUP 3600

Sir:

Attached hereto is a certified copy of United Kingdom Patent Application No. 0024791.6, which corresponds to the above-identified United States application and which was filed in the United Kingdom Patent Office on October 10, 2000.

The priority benefits provided by Section 119 of the Patent Act of 1952 are claimed for this application.

Respectfully submitted,
WEBB ZIESENHEIM LOGSDON
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By

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Frederick A. HALL

Serial No. 29/915, 088



INVESTOR IN PEOPLE

The Patent Office
Concept House
Cardiff Road
Newport
South Wales
NP10 8QQ

I, the undersigned, being an officer duly authorised in accordance with Section 74(1) and (4) of the Deregulation & Contracting Out Act 1994, to sign and issue certificates on behalf of the Comptroller-General, hereby certify that annexed hereto is a true copy of the documents as originally filed in connection with the patent application identified therein.

I also certify that the attached copy of the request for grant of a Patent (Form 1/77) bears a correction, effected by this office, following a request by the applicant and agreed to by the Comptroller-General.

In accordance with the Patents (Companies Re-registration) Rules 1982, if a company named in this certificate and any accompanying documents has re-registered under the Companies Act 1980 with the same name as that with which it was registered immediately before re-registration save for the substitution as, or inclusion as, the last part of the name of the words "public limited company" or their equivalents in Welsh, references to the name of the company in this certificate and any accompanying documents shall be treated as references to the name with which it is so re-registered.

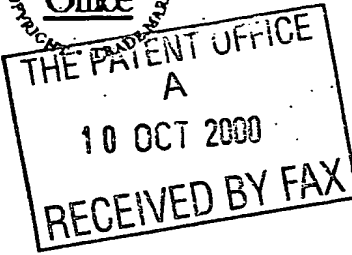
In accordance with the rules, the words "public limited company" may be replaced by p.l.c., plc, P.L.C. or PLC.

Re-registration under the Companies Act does not constitute a new legal entity but merely subjects the company to certain additional company law rules.

Signed

Andrew Gersy

Dated 5 August 2003



10OCT00 E574820-1 000318
P01/7700 0:00-0024791.6

Request for grant of a patent

(See the notes on the back of this form. You can also get an explanatory leaflet from the Patent Office to help you fill in this form.)

The Patent Office

Cardiff Road
Newport
South Wales
NP10 8QQ

1. Your reference

AJL/IR/P4673

2. Patent application number

(The Patent Office will fill in this part)

0024791.6

10 OCT 2000

3. Full name, address and postcode of the or of each applicant (underline all surnames)

DMM Engineering Limited,
Y-Glyn,
Llanberis,
Gwynedd LL55 4EL
United Kingdom

Patents ADP number (if you know it)

If the applicant is a corporate body, give the country/state of its incorporation

7485634001

4. Title of the invention

17/11/00

~~Device for adhering bricks, concrete blocks and the like~~

IMPROVEMENTS IN AND RELATING TO KARABINERS

5. Name of your agent (if you have one)

ROYSTONS,

"Address for service" in the United Kingdom to which all correspondence should be sent (including the postcode)

Tower Building,
Water Street,
Liverpool L3 1BA
Merseyside.

Patents ADP number (if you know it)

1438001

6. If you are declaring priority from one or more earlier patent applications, give the country and the date of filing of the or of each of these earlier applications and (if you know it) the or each application number

Country

Priority application number
(if you know it)

Date of filing
(day / month / year)

7. If this application is divided or otherwise derived from an earlier UK application, give the number and the filing date of the earlier application

Number of earlier application

Date of filing
(day / month / year)

8. Is a statement of inventorship and of right to grant of a patent required in support of this request? (Answer 'Yes' if:

Yes

- a) any applicant named in part 3 is not an inventor, or
 - b) there is an inventor who is not named as an applicant, or
 - c) any named applicant is a corporate body.
- See note (d))

Patents Form 1/77

9. Enter the number of sheets for any of the following items you are filing with this form. Do not count copies of the same document

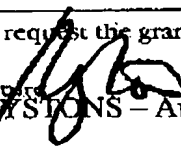
Continuation sheets of this form	4
Description	-
Claim(s)	-
Abstract	-
Drawing(s)	2

10. If you are also filing any of the following, state how many against each item.

Priority documents	-
Translations of priority documents	-
Statement of inventorship and right to grant of a patent (Patents Form 7/77)	-
Request for preliminary examination and search (Patents Form 9/77)	-
Request for substantive examination (Patents Form 10/77)	-
Any other documents (please specify)	-

11.

I/We request the grant of a patent on the basis of this application.

Signature:  Date: 10.10.2000
ROY STONS - Authorised Agent

12. Name and daytime telephone number of person to contact in the United Kingdom

A. J. Lyons - 0151-236 5147/1417

Warning

After an application for a patent has been filed, the Comptroller of the Patent Office will consider whether publication or communication of the invention should be prohibited or restricted under Section 22 of the Patents Act 1977. You will be informed if it is necessary to prohibit or restrict your invention in this way. Furthermore, if you live in the United Kingdom, Section 23 of the Patents Act 1977 stops you from applying for a patent abroad without first getting written permission from the Patent Office unless an application has been filed at least 6 weeks beforehand in the United Kingdom for a patent for the same invention and either no direction prohibiting publication or communication has been given, or any such direction has been revoked.

Notes

- If you need help to fill in this form or you have any questions, please contact the Patent Office on 08459 500505.
- Write your answers in capital letters using black ink or you may type them.
- If there is not enough space for all the relevant details on any part of this form, please continue on a separate sheet of paper and write "see continuation sheet" in the relevant part(s). Any continuation sheet should be attached to this form.
- If you have answered 'Yes' Patents Form 7/77 will need to be filed.
- Once you have filled in the form you must remember to sign and date it.
- For details of the fee and ways to pay please contact the Patent Office.

Patents Form 1/77

Title: Improvements in and relating to karabiners

DESCRIPTION

This invention concerns improvements in and relating to snap hooks, also known as karabiners, for use in climbing and other activities requiring connections to be made to ropes, cables and carrying loops for equipment.

Karabiners generally comprise a C-shaped body with its ends curved towards each other and forming a gap closed by a spring loaded gate pivotally mounted on one body end and urged into engagement with the other body end. A barrel or other locking member may be provided either on the gate or the free body end and which is movable, say slidably or along screw threading, to lock the gate in a closed position.

When unlocked, the gate of a karabiner is urged closed and a rope or loop can be snapped into the karabiner by pushing it against the gate to open it. Once the rope or loop is in the confines of the C-shaped body, the gate can spring back to its closed position, where it can be locked, if desired.

A karabiner gate is arranged to open inwardly, so that a rope or the like can be easily snapped into the karabiner but when closed the gate engages the free end of the body to prevent the gate opening outwardly of the body. However, there is a risk of the gate opening inwardly if not locked and even if it is locked with a thimble or the like as described above, there is a risk of the thimble failing if too great an inwards force is applied to the gate. If the gate opens inadvertently there is, of course, the risk of the rope or the like escaping from the karabiner body. Typically a steel karabiner gate can

withstand an inwards push of upto about 10kN.

An object of this invention is to provide an improved karabiner.

According to this invention there is provided a karabiner comprising a generally C-shaped body, with its free ends curved towards each other and forming a gap therebetween, and a gate on one end of the body for closing the gap, the gate having a locking barrel thereon for locking the gate to the other end of the body, the barrel having a greater thickness or strength on its face outward of the body.

The barrel may be slidable along the gate to a locking position where the barrel overlaps the free end of the body with the gate in a closed position. Alternatively, the barrel may be screw threadedly mounted on the gate for movement therealong for locking the gate. The barrel may alternatively be a double locking or triple locking barrel.

Whatever form the barrel movement takes it is desirable for the barrel to have additional thickness of material on the face or side of the barrel that will be outermost when it is in the position of locking the gate in a closed position. The barrel is preferably made of carbon steel but other suitable materials may be used, such as aluminium and stainless steel. Ideally, the barrel is sized and/or made from suitable material such that it can withstand push in forces upto 25kN.

The gate itself may take any suitable form and, for example, may be a substantially solid cylindrical gate or a wire gate of the type shown, for example, in our co-pending GB Patent Application No.0019136.1.

This invention will now be further described, by way of example only, with reference to the accompanying drawings, in which:

Figure 1 is a side view of a karabiner according to the invention with its gate open;

Figure 2 shows the karabiner of Figure 1 with the gate closed;

Figure 3 is a perspective view from one end of the karabiner of Figure 1; and

Figure 4 shows the karabiner of Figure 1 from one side and below.

Referring to the accompanying drawings a karabiner 10 comprises a generally C-shaped body 12 having its free ends 14,16 facing each other but leaving a gap 18 therebetween. Pivotaly mounted on one end 14 of the body is a spring-loaded gate 20. At its free end the gate 20 has a slot 22 with a pin 24 across it. The free end 16 of the body has a hook formation 26 that enters the slot 22 when the gate closes with the pin 24 acting as a stop by locating in the hook formation. The spring loading of the gate is arranged to urge the gate to a closed position.

On the gate 18 is a locking barrel 30 that slides along the gate or is screw-threadedly mounted on the gate to move between a first position clear of the free end of the gate so that it can be opened and closed and a second position where it overlaps the engagement position of the gate 18 and the hook formation 26 when the gate is closed. The locking barrel thus prevents the gate from being opened inadvertently.

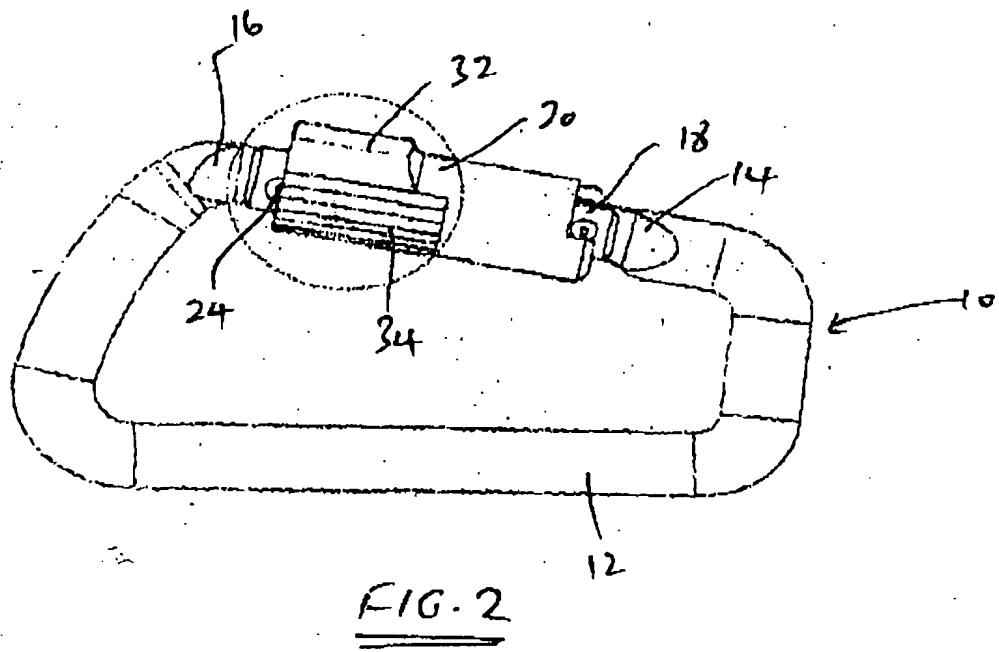
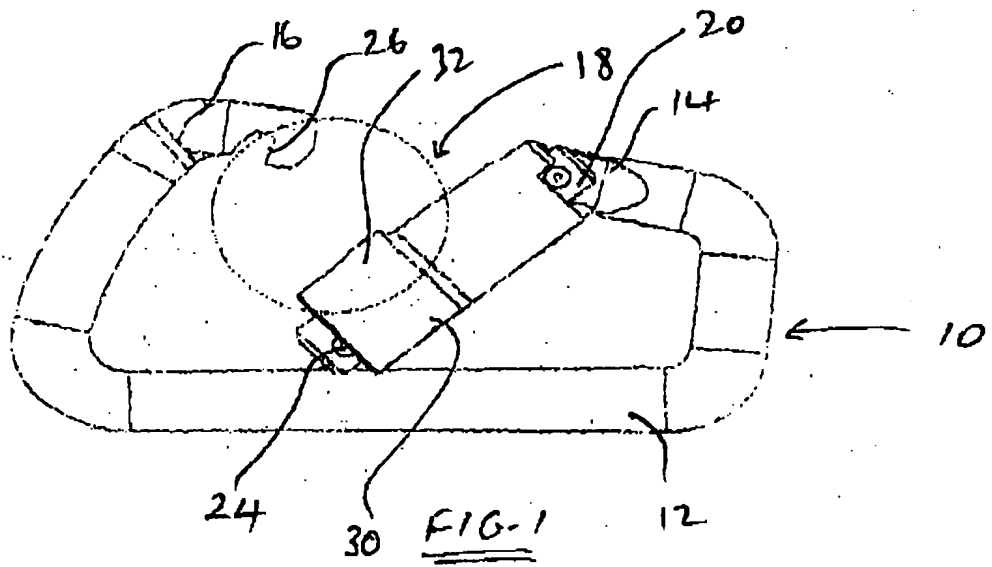
The barrel 30 is thicker in the region (32) thereof that overlaps the engagement position of the gate and hook on the outside of the karabiner. This additional thickness provides greater strength against inwards forces that might otherwise cause the barrel to fracture or break to the extent that it no longer prevents the gate from opening inwardly, which could allow a rope or the like to escape from the karabiner. It is to be noted that, in spite of the thickness of the barrel as described in one region as shown in Figure 1 of

the drawings, the reduction in gate open dimension is minimal compared to a conventional karabiner.

On its opposite side the barrel 30 has longitudinal grooves 34 formed thereon for grip. The shaping of the barrel 30 has the advantage of being easier to grip and operate compared to a conventional circular section barrel.

It will be appreciated that the locking barrels of the type illustrated may be used with other types of karabiner gate, such as wire gates.

1/2



2/2

